

AWK-6222 Series

Industrial IEEE 802.11a/b/g IP68 dual-radio wireless AP/bridge/client



- > IEEE 802.11a/b/g compliant
- > Dual-radio design for 2.4 GHz and/or 5 GHz bands
- > Supports client-based Turbo Roaming and redundant roaming
- > Rugged IP68-rated housing and -40 to 75°C operating temperature



Introduction

The AWK-6222 outdoor wireless AP/bridge/client avoids interruptions in WLAN transmissions with its dual 2.4/5 GHz RF modules, which allow two independent wireless connections over different frequencies. To maximize wireless and wired network availability, the AWK-6222 can incorporate Ethernet redundancy using RSTP, and power redundancy using dual DC power inputs and PoE. In addition, the AWK-6222 is housed in an IP68 metal casing with M12 connectors for total protection against dust, water, vibration, and other environmental effects. This rugged unit supports seamless roaming to achieve ultra-reliable and redundant wireless networks under challenging outdoor, mobile conditions. These industrially hardened features let you set up a rock-solid WLAN to ensure that your entire network will always be in service. The AWK-6222 is compliant with the industrial standards and approvals, covering operating temperature, power input voltage, surge, ESD and vibration.

Redundancy to Increase System Reliability

- PoE and dual DC power inputs
- Dual-radio design with 2.4 and/or 5 GHz dual-band operation for redundant WLAN connections
- Redundant roaming for fast and stable handoff
- Ethernet redundancy via RSTP

Features for Critical Environments

- IP68-rated metal housing and -40 to 75°C wide operating temperature
- Long-distance wireless transmission over 10 km
- Anti-vibration M12 design and waterproof/dust-tight RJ45 connectors
- Wall, DIN rail, and pole mounting options for versatile outdoor installation

Specifications

WLAN Interface

Standards:

- IEEE 802.11a/b/g for Wireless LAN
- IEEE 802.11i for Wireless Security
- IEEE 802.3 for 10BaseT(X)
- IEEE 802.3u for 100BaseT(X)
- IEEE 802.3af for Power-over-Ethernet
- IEEE 802.1D for Spanning Tree Protocol
- IEEE 802.1w for Rapid STP
- IEEE 802.1Q for VLAN

Spread Spectrum and Modulation (typical):

- DSSS with DBPSK, DQPSK, CCK
- OFDM with BPSK, QPSK, 16QAM, 64QAM
- 802.11b: CCK @ 11/5.5 Mbps, DQPSK @ 2 Mbps, DBPSK @ 11 Mbps
- 802.11a/g: 64QAM @ 54/48 Mbps, 16QAM @ 36/24 Mbps, QPSK @ 18/12 Mbps, BPSK @ 9/6 Mbps

Operating Channels (central frequency):

- US:
- 2.412 to 2.462 GHz (11 channels)
 - 5.18 to 5.24 GHz (4 channels)

EU:

- 2.412 to 2.472 GHz (13 channels)
- 5.18 to 5.24 GHz (4 channels)

JP:

- 2.412 to 2.472 GHz (13 channels, OFDM)
- 2.412 to 2.484 GHz (14 channels, DSSS)
- 5.18 to 5.24 GHz (4 channels for W52)

Security:

- SSID broadcast enable/disable
- Firewall for MAC/IP/Protocol/Port-based filtering
- 64-bit and 128-bit WEP encryption, WPA/WPA2 Personal and Enterprise (IEEE 802.1X/RADIUS, TKIP and AES)

Transmission Rates:

- 802.11b: 1, 2, 5.5, 11 Mbps
- 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps

TX Transmit Power:

- 802.11b: Typ. 23±1.5 dBm @ 1 to 11 Mbps
- 802.11g: Typ. 20±1.5 dBm @ 6 to 24 Mbps, Typ. 19±1.5 dBm @ 36 Mbps, Typ. 18±1.5 dBm @ 48 Mbps, Typ. 17±1.5 dBm @ 54 Mbps

802.11a:

Typ. 18±1.5 dBm @ 6 to 24 Mbps, Typ. 16±1.5 dBm @ 36 to 48 Mbps,
Typ. 15±1.5 dBm @ 54 Mbps

RX Sensitivity:

802.11b:

-97 dBm @ 1 Mbps, -94 dBm @ 2 Mbps, -92 dBm @ 5.5 Mbps, -90
dBm @ 11 Mbps

802.11g:

-93 dBm @ 6 Mbps, -91 dBm @ 9 Mbps, -90 dBm @ 12 Mbps, -88
dBm @ 18 Mbps, -84 dBm @ 24 Mbps, -80 dBm @ 36 Mbps, -76 dBm
@ 48 Mbps, -74 dBm @ 54 Mbps

802.11a:

-90 dBm @ 6 Mbps, -89 dBm @ 9 Mbps, -89 dBm @ 12 Mbps, -85
dBm @ 18 Mbps, -83 dBm @ 24 Mbps, -79 dBm @ 36 Mbps, -75 dBm
@ 48 Mbps, -74 dBm @ 54 Mbps

Protocol Support

General Protocols: Proxy ARP, DNS, HTTP, HTTPS, IP, ICMP, SNMP, TCP, UDP, RADIUS, SNMP, PPPoE, DHCP

AP-only Protocols: ARP, BOOTP, DHCP, STP/RSTP (IEEE 802.1D/w)

Interface

Default Antennas: 2 dual-band omni-directional antennas, 5 dBi at 2.4 GHz, 2 dBi at 5 GHz, N-type (male)

RJ45 Ports: 2, 10/100BaseT(X), auto negotiation speed, F/H duplex mode, and auto MDI/MDI-X connection

Connector for External Antennas: N-type (female)

Console Port: RS-232 (waterproof RJ45-type)

Reset: Present

LED Indicators: PWR, FAULT, STATE, WLAN1, WLAN2, LAN1, LAN2

Alarm Contact (digital output, M12 female connector): 1 relay output with current carrying capacity of 1 A @ 24 VDC

Digital Inputs (M12 female connector): 2 electrically isolated inputs

- +13 to +30 V for state "1"
- +3 to -30 V for state "0"
- Max. input current: 8 mA

Physical Characteristics

Housing: Metal, IP68 protection

Weight: 1.8 kg

Dimensions: 224 x 148 x 67 mm (8.82 x 5.82 x 2.62 in)

Installation: Wall mounting (standard), DIN-Rail mounting (optional), pole mounting (optional)

Environmental Limits

Operating Temperature: -40 to 75°C (-40 to 167°F)

Storage Temperature: -40 to 85°C (-40 to 185°F)

Ambient Relative Humidity: 5% to 100% (non-condensing)

Power Requirements

Input Voltage: 12 to 48 VDC, redundant dual DC power inputs or 48 VDC Power-over-Ethernet (IEEE 802.3af compliant)

Connector: M12 male connector with A-coding

Power Consumption: 12 to 48 VDC, 1.066 to 0.312 A

Reverse Polarity Protection: Present

Standards and Certifications

Safety: UL 60950-1, EN 60950-1

Hazardous Location: UL/cUL Class I Division 2, ATEX Zone 2

EMC: EN 301 489-1/17, FCC Part 15 Subpart B, EN 55022/55024

Radio: EN 300 328, EN 301 893, TELEC

Note: Please check Moxa's website for the most up-to-date certification status.

Reliability

MTBF (mean time between failures): 284,072 hrs

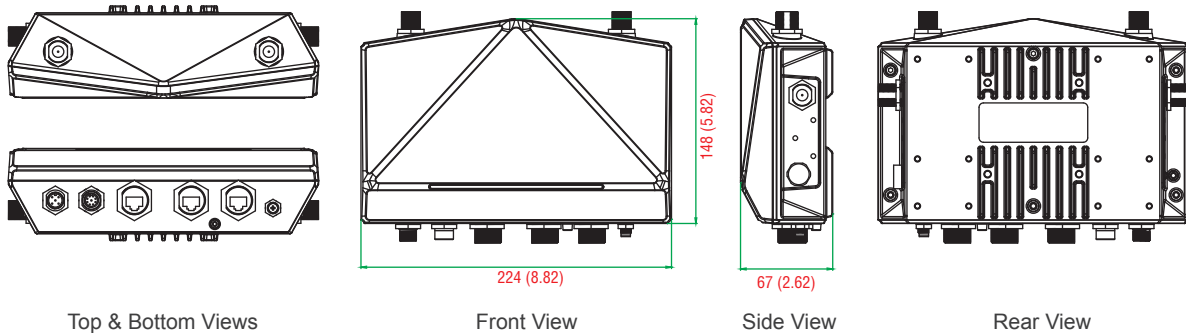
Warranty

Warranty Period: 5 years

Details: See www.moxa.com/warranty

Dimensions

Unit: mm (inch)



Ordering Information

Available Models

AWK-6222-US-T: IEEE 802.11a/b/g IP68 dual-radio wireless AP/bridge/client, US band, -40 to 75°C operating temperature

AWK-6222-EU-T: IEEE 802.11a/b/g IP68 dual-radio wireless AP/bridge/client, EU band, -40 to 75°C operating temperature

AWK-6222-JP-T: IEEE 802.11a/b/g IP68 dual-radio wireless AP/bridge/client, JP band, -40 to 75°C operating temperature

Note: Please visit Moxa's website for a complete list of optional wireless accessories and antennas available for Moxa's wireless products.

Package Checklist

- AWK-6222 wireless AP/bridge/client
- 2 dual-band omni-directional antennas (5/2 dBi, N-type male, 2.4/5 GHz)
- Wall mounting kit (includes 2 supports)
- Field-installable power plug
- Field-installable RJ45 plug
- Metal cap to cover M12-female DI/O connector
- 2 metal caps to cover RJ45 connectors
- 2 metal caps to cover N-type connectors
- Transparent plastic sticks for field-installable plugs
- Documentation and software CD
- Quick installation guide (printed)
- Warranty card